



State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt  
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Ted Stewart  
Executive Director

James W. Carter  
Division Director

355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203  
801-538-5340  
801-359-3940 (Fax)  
801-538-5319 (TDD)

February 3, 1994

TO: Minerals File

FROM: Anthony A. Gallegos, Reclamation Engineer *aa*

RE: Review of File M/035/002 for previous information dealing with the North Ore Shoot, Kennecott Utah Copper (KUC), Bingham Canyon Mine, Salt Lake County, Utah

I have reviewed the Division's M/035/002 correspondence files for the time period of 1976 through 1986. Below is a summary listing of the documents found relating to the North Ore Shoot project. Double-sided copies of these documents are attached for your review.

December 18, 1980

A letter sent by the Division to KUC requesting information describing the North Ore Shoot shaft as an amendment to the present mining and reclamation plan.

February 17, 1981

A letter sent by KUC to the Division in response to the request for information on the North Ore Shoot. The letter refers to a meeting between KUC personnel and Division staff held on February 5 to orally discuss the request for information. The letter provides a response to the five items raised by the Division. (NOTE-No memo could be found in the file documenting the issues discussed at the meeting.)

March 16, 1981

A letter sent by the Division to KUC stating the Division has received and reviewed the information submitted by KUC and finds that it satisfactorily addresses the Division's request.

April 13, 1984

A letter from the Department of Health to KUC is copied to the Division. The letter refers to the review of plans and supporting information regarding the new Kennecott settling basin near the Bingham City Cemetery and the discharge to Bingham Creek. The letter includes a reference to treatment of the north ore chute water.

February 28, 1986

A letter from the Department of Health to KUC is copied to the Division. The letter refers to the treatment and storage of leach solution. The letter includes a reference to continued efforts by Kennecott to treat the north ore chute water.



SCOTT M. MATHESON  
Governor

GORDON E. HARMSTON  
*Executive Director,*  
NATURAL RESOURCES

CLEON B. FEIGHT  
*Director*

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS, AND MINING  
1588 West North Temple  
Salt Lake City, Utah 84116  
(801) 533-5771

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December 18, 1980

Mr. W. D. Southard  
Division Engineer  
Kennecott Minerals Company  
P. O. Box 6500  
Salt Lake City, Utah 84106

RE: Shaft for North  
Off-chute Ore Body  
Bingham Canyon Mine  
ACT/035/002

Dear Mr. Southard:

It has come to the Division's attention that Kennecott Minerals Co. is proceeding with development of a shaft for the North Off-chute Ore Body at the Bingham Canyon Mine.

Even though underground mining is mentioned in the Bingham Canyon Mine Mining and Reclamation Plan as one of the possible methods to be used during the life of the operation, Kennecott Minerals Co., must still notify the Division prior to initiating any new action.

Please submit the following information as an amendment to the present mining and reclamation plan for Division review.

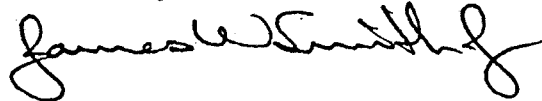
1. Detailed map showing shaft and headframe location, as well as any additionally new support facilities.
2. Affirmation as to the location of the deposition of waste rock and low-grade ore.
3. Information pertaining to the diameter and depth of the shaft.
4. Discussion of any hydrologic impact as a result of shaft development.
5. Narrative discussing scope of the new operation, including impacts, and mitigative measures.

Mr. W. D. Southard  
ACT/035/002  
December 18, 1980  
Page two

Also, please be reminded that any information pertaining to the location, size or nature of the ore deposit may be maintained as confidential, if so requested by the operator.

The Division would appreciate a rapid response regarding this matter. If you should have any questions, please feel free to call either myself or Ron Daniels.

Sincerely,

A handwritten signature in cursive script, appearing to read "James W. Smith, Jr.", written in dark ink.

JAMES W. SMITH, JR.  
COORDINATOR OF MINED  
LAND DEVELOPMENT

JWS/btm

February 17, 1981

**Kennecott**

Mr. James W. Smith, Jr.  
Coordinator of Mined Land Development  
State of Utah  
Department of Natural Resources  
Division of Oil, Gas and Mining  
1588 West North Temple  
Salt Lake City, UT 84116

RE: Shaft for North Ore Shoot Extension  
Bingham Canyon Mine  
ACT/035/002

RECEIVED  
FEB 24 1981  
DIVISION OF  
OIL, GAS & MINING

Dear Mr. Smith:

Reference is made to your letter dated December 18, 1980 to our Mr. W. D. Southard, requesting information with respect to the above captioned matter. On February 5, Messrs. Southard Earl C. Tingey, our General Counsel, and myself met with you and members of your staff to orally discuss your request for information.

The following information is responsive to your request. This information is not given as an amendment to the present Mining and Reclamation Plan because, in our opinion, the Mining and Reclamation Plan is complete and does not require amendment. However, to keep your department informed, we are more than pleased to provide this information.

To facilitate better communications in the future, we indicated that our Mr. T. T. Pinder, Kennecott Minerals Company, Magna, Utah 84044 (phone 263-6123, Ext. 5418), is our contact person with respect to the production aspects of the Bingham Canyon mine. I am the contact person, Kennecott Minerals Company, P. O. Box 11248, Salt Lake City, Utah 84147 (phone 534-8227) for the North Ore Shoot Extension.

The information you requested follows:

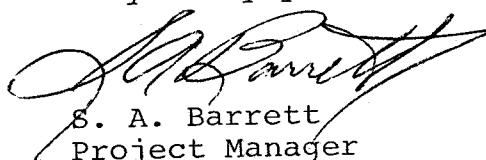
1. The location of the shaft and hoist house in Bingham Canyon are shown on the attached Utah Copper Division property map, Exhibit A of the Mining and Reclamation plan.

Mr. James W. Smith, Jr.  
February 17, 1981  
Page 2

2. Waste rock from the shaft and development drifts will be deposited in Bingham Canyon south and southeast of the shaft-hoist house location no farther than 2000 ft. and as close as 200 ft. from the shaft. This is within the area 1 of the map, Exhibit A, identified for waste disposal in Section 2 Mine Waste Disposal Area (page 6) of the Mining and Reclamation Plan. Total tonnage for this project of approximately 460,000 is less than 1½ days waste production from the Bingham pit.
3. The shaft will be circular and concrete lined with an inside diameter of 20 feet and a depth of approximately 4200 feet.
4. It is expected that no more than 500 GPM of water will be encountered during shaft sinking. This water will be contained within the Utah Copper collection system described in Section 2, Mine Waste Disposal (page 7) and in Section 3, (page 9) Excess Mine Water Disposal area of the approved mining plan. At this time it is not possible to predict with any degree of accuracy the amount of water that could be encountered in the over 14,000 feet of drifting.
5. The present work in progress will provide a shaft 4200 feet deep and two drifts driven from the shaft. One drift of 7000 feet will be at an elevation 3500 feet below the shaft collar, and the second drift of 7500 feet will be at an elevation 2500 feet below the shaft collar. Diamond drilling can be accomplished from these drifts to delineate the ore horizon definitively.

No additional impact is envisioned in addition to that already considered in the approved plan for the Utah mine.

Very truly yours,



S. A. Barrett  
Project Manager

North Ore Shoot Extension Project

/mh  
Att.



SCOTT M. MATHESON  
Governor

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E. STEELE McINTYRE

March 16, 1981

Mr. S. A. Barrett  
Project Manager  
Kennecott Minerals Company  
P. O. Box 1248  
Salt Lake City, Utah 84147

RE: North Ore Shoot  
Extension Project  
Bingham Canyon Mine  
ACT/035/002  
Salt Lake County, Utah

Dear Mr. Barrett:

The Division has received and reviewed the information submitted by Kennecott relative to the above referenced operation and finds that it satisfactorily addresses the Division's request.

Thank you for your continued cooperation in working with the Division.

Sincerely,

JAMES W. SMITH, JR.  
COORDINATOR OF MINED  
LAND DEVELOPMENT

JWS/btm

Scott M. Matheson  
Governor



STATE OF UTAH  
DEPARTMENT OF HEALTH  
DIVISION OF ENVIRONMENTAL HEALTH  
Utah Water Pollution Control Committee

150 West North Temple, P.O. Box 2500, Salt Lake City, Utah 84110-2500

April 13, 1984

Rec'd  
4-17-84

To Wayne

File  
Bingham

Canyon Mine  
Calvin K. Sudweeks  
Executive Secretary  
Rm 410 (801) 533-6146

mes O. Mason, M.D., Dr.P.H.  
Executive Director  
Department of Health  
801-533-6111

Kenneth L. Alkema  
Director

Division of Environmental Health  
801-533-6121

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Robert A. Malone  
Director of Environmental Affairs  
Kennecott  
10 East South Temple  
P.O. Box 11248  
Salt Lake City, UT 84147

JHC  
APR 19 1984

RE: Kennecott Settling Basin Approval

Dear Mr. Malone:

We have reviewed the plans and supporting information regarding the new Kennecott settling basin near the Bingham City Cemetery and the discharge to Bingham Creek. Plans UD-2002-D through UD 2008-D and supporting information submitted February 10, 27 and March 15, 1984 were reviewed.

As a result of our review the plans for the emergency use of the new 20 acre settling basin and discharge are approved provided the following conditions are met.

1. A satisfactory oil skimming device must be installed on the pond outlet.
2. The water must be contained in an acceptable manner on Kennecott property if the lowest outlet is used to drain the pond.
3. Additional pond sealing must be provided if there is excessive seepage of water which would adversely affect the groundwater.
4. A monthly report must be submitted to this office to include data on flow rate and weekly pH, total suspended solids, total dissolved solids, copper, cadmium, lead, mercury, zinc and arsenic.

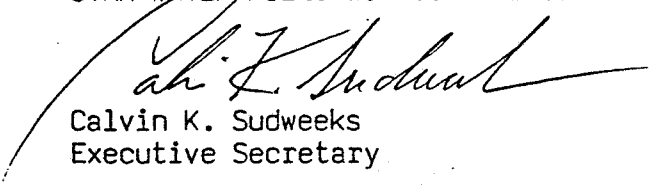
The twenty acre pond is for the emergency treatment of mine and north ore chute water. The dikes are designed to have an inside slope of three horizontal to one vertical with a 20 foot wide crest. The 2,500 gpm of water is to be lime treated and settled so that it complies with all state and federal effluent standards. After treatment the water is to flow in an existing Kennecott pipeline to Bingham Creek at the North Jordan canal. Additional treatment must be provided if the discharge fails to meet existing effluent and water quality standards.

Page 2  
Robert A. Malone

We also request that Kennecott provide us with pump, pipeline and pond lining information on the additional pond revisions at the existing evaporation pond site.

Sincerely,

UTAH WATER POLLUTION CONTROL COMMITTEE



Calvin K. Sudweeks  
Executive Secretary

SRM:lt

cc: Steve Taylor, Kennecott  
Division of Oil, Gas and Mining ✓  
Salt Lake City/County Health Department  
EPA, Denver, Rob Walline  
State Engineers Office, Bob Morgan

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STATE OF UTAH  
DEPARTMENT OF HEALTH

NORMAN H. BANGERTE, GOVERNOR

SUZANNE DANDY, M.D., M.P.H., EXECUTIVE DIRECTOR

ATTN/035/002

February 28, 1986  
533-6146

RECEIVED  
FEB 28 1986

Mr. Steve D. Taylor  
Division Environmental Engineer  
Kennecott  
P. O. Box 31838  
Salt Lake City, Utah 84131-0838

DIVISION OF  
OIL, GAS & MINING  
**FILE COPY**

Re: Leach Water Treatment

Dear Mr. Taylor:

We have reviewed the Kennecott January 24, 1986 request for treating leach solution and storing it in ponds in anticipation of excess spring runoff. This request to use ponds in an area already showing contamination is a further indication of the inadequacy of the Kennecott leach and storm runoff system. Continued efforts need to be made by Kennecott to implement an adequate system as soon as possible. Because of the present system and expected saturated soil conditions we recognize the potential advantages of treating some leach water and discharging it to the lined 80 acre pond instead of discharging untreated leach water from the recycle system.

Thus the spring 1986 treatment of approximately 400 acre feet of leach solution and containment in the 80 acre lined pond is approved provided:

1. The daily volume of treated leach solution is reported monthly along with the proposed water treatment monitoring.
2. The water level in the pond does not exceed the lined portion of the pond.
3. Continued efforts are made by Kennecott to treat the north ore chute, pit and seepage waters to state and federal water standards prior to discharge to the Jordan River system. The monthly report should indicate the efforts made during the month.

As discussed during the February 18, 1986 site inspection and the February 20, 1986 meeting, permeability testing of the additional lined ponds needs to be submitted to us by Kennecott. When that test information and the updated runoff predictions are available we will evaluate the appropriateness of additional water treatment and

KENNETH L. ALKEMA, DIRECTOR • DIVISION OF ENVIRONMENTAL HEALTH

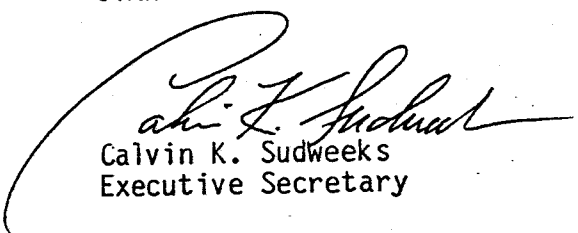
Page 2  
Mr. Steve D. Taylor

its disposal in the ponds. In addition efforts should be made by Kennecott to evaluate the possibility of discharging a volume of water from the ponds to the Jordan River equivalent to the volume flowing to the Bingham Reservoir which exceeds the 10 year 24 hour storm runoff. This would help to minimize the local ground water impacts.

Please contact our office if you need to discuss any items in this letter.

Sincerely,

UTAH WATER POLLUTION CONTROL COMMITTEE



Calvin K. Sudweeks  
Executive Secretary

cc: Fred Nelson  
Salt Lake City/County Health Dept.  
Division of Oil, Gas and Mining

*SRM*  
SRM:pa  
256-4